

## AMENDMENTS

### In the Claims:

Please amend the claims as indicated hereafter.

1. (Currently Amended) A texture mapping system, comprising:

memory for storing a parametric texture map, the parametric texture map having a plurality of texels defining a first texture, at least one each of the texels defining a variable expression that defines a luminosity parameter as a function of light direction; and

a texture map manager configured to perform a rotation of ~~[[a]]~~ the first texture defined by the parametric texture map thereby providing a parametric texture map defining a second texture that is rotated relative to the first texture, the texture map manager further configured to define a variable expression for a texel of the parametric texture map defining the second texture by adjusting the variable expression of the at least one of the texels ~~texel~~ to compensate for a change in relative light direction resulting from the rotation.

2. (Original) The system of claim 1, wherein the variable expression of the one texel defines a luminosity behavior for the one texel.

3. (Original) The system of claim 1, wherein the variable expression of the one texel is defined according to the following equation:

$$F(u,v) = Au^2 + Bv^2 + Cuv + Du + Ev + F,$$

wherein A, B, C, D, E, and F are constants, and wherein u and v are components of a light vector.

4. (Currently Amended) The system of claim 3, wherein the texture map manager is configured to adjust the variable expression of the one texel, in response to the rotation, such that the variable expression ~~of the one texel~~ for the texel of the parametric texture map defining the second texture is defined according to the following equation:

$$F(u,v) = (AK^2 + BL^2 + CKL)u^2 + (AM^2 + BN^2 + CMN)v^2 + (2AKM + 2BLN + CKN + CML)uv + (DK + EL)u + (DM + EN)v + F,$$

wherein  $K = \cos(x)$ ,  $L = \sin(-x)$ ,  $M = -\sin(x)$ ,  $N = \cos(-x)$ , and  $x$  is indicative of an angle that the parametric texture map is rotated via the rotation.

5. (Currently Amended) A computer-readable medium ~~having~~ encoded with a computer program, the program comprising:

logic for rotating a texture defined by a parametric texture map, the parametric texture map having a plurality of texels, ~~each~~ at least one of the texels defining a variable expression that defines a luminosity parameter as a function of light direction; and

logic for compensating the variable expression of ~~at least the one of the texels~~ texel for a change in relative light direction resulting from a rotation of the texture by the rotating logic, wherein the compensating logic compensates for the change by adjusting ~~adjusts~~ the variable expression based on an angle of rotation for the texture to define a new variable expression defining the luminosity parameter for the rotated texture.

6. (Currently Amended) A texture mapping system, comprising:

means for rotating a texture defined by a parametric texture map, the parametric texture map having a plurality of texels, each at least one of the texels defining a variable expression that defines a luminosity parameter as a function of light direction; and

means for compensating the variable expression of ~~at least the one of the texels~~ texel for a change in relative light direction resulting from a rotation of the texture by the rotating means, wherein the compensating means compensates for the change by adjusting ~~adjusts~~ the variable expression based on an angle of rotation for the texture to define a new variable expression defining the luminosity parameter for the rotated texture.

7. (Currently Amended) A texture mapping method, comprising:

rotating a texture defined by a parametric texture map, the parametric texture map having a plurality of texels, each at least one of the texels defining a variable expression that defines a luminosity parameter as a function of light direction; and

compensating for a change in relative light direction resulting from the rotating, the compensating comprising adjusting the variable expression of ~~at least the one of the texels~~ texel thereby ~~compensating for the rotating~~ defining a new variable expression that defines the luminosity parameter for the rotated texture.

8. (Original) The method of claim 7, further comprising indicating, via the variable expression of the one texel, a luminosity behavior for the one texel.

9. (Original) The method of claim 7, wherein the variable expression of the one texel is defined according to the following equation:

$$F(u,v) = Au^2 + Bv^2 + Cuv + Du + Ev + F,$$

wherein A, B, C, D, E, and F are constants, and wherein u and v are components of a light vector.

10. (Currently Amended) The method of claim 9, wherein the ~~adjusted~~ new variable expression ~~of the one texel~~ is defined according to the following equation:

$$F(u,v) = (AK^2 + BL^2 + CKL)u^2 + (AM^2 + BN^2 + CMN)v^2 + (2AKM + 2BLN + CKN + CML)uv + (DK + EL)u + (DM + EN)v + F,$$

wherein  $K = \cos(x)$ ,  $L = \sin(-x)$ ,  $M = -\sin(x)$ ,  $N = \cos(-x)$ , and x is indicative of an angle that the texture is rotated via the rotating.

11. (Currently Amended) A texture mapping method, comprising:

rotating a texture defined by a parametric texture map, the parametric texture map having a plurality of texels, ~~each~~ at least one of the texels defining a variable expression that defines a luminosity parameter as a function of light direction; and

compensating the variable expression of ~~at least the one of the texels~~ texel for a change in relative light direction resulting from the rotating, wherein the compensating comprises adjusting the variable expression of ~~at least the one of the texels~~ texel based on an angle of rotation of the texture thereby defining a variable expression for a texel that defines a portion of the rotated texture.

12. (Original) The method of claim 11, further comprising indicating, via the variable expression of the one texel, a luminosity behavior for the one texel.

13. (Original) The method of claim 11, wherein the variable expression of the one texel is defined according to the following equation:

$$F(u,v) = Au^2 + Bv^2 + Cuv + Du + Ev + F,$$

wherein A, B, C, D, E, and F are constants, and wherein u and v are components of a light vector.

14. (Currently Amended) The method of claim 13, wherein the ~~adjusted~~ variable expression of ~~the one texel~~ for the texel defining the portion of the second texture is defined according to the following equation:

$$F(u,v) = (AK^2 + BL^2 + CKL)u^2 + (AM^2 + BN^2 + CMN)v^2 + (2AKM + 2BLN + CKN + CML)uv + (DK + EL)u + (DM + EN)v + F,$$

wherein  $K = \cos(x)$ ,  $L = \sin(-x)$ ,  $M = -\sin(x)$ ,  $N = \cos(-x)$ , and x is indicative of an angle that the texture is rotated via the rotating.

15. (New) The system of claim 11, further comprising:  
applying the rotated texture to a graphical object based on the variable expression for the texel defining the portion of the second texture; and  
displaying the graphical object.

16. (New) The system of claim 7, further comprising:  
applying the rotated texture to a graphical object based on the new variable expression;  
and  
displaying the graphical object.